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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/531,225 | 04/13/2005 | Helmut Winterling | 12810-00072-US | 4572 |

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| EXAMINER |
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LISTVOYB, GREGORY

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| ART UNIT | PAPER NUMBER |
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1711

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01/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------|--|-------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/531,225 | | WINTERLING ET AL. | |
| | Examiner | | Art Unit | |
| | Gregory Listvoyb | | 1711 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION (Supplemental to prior Office action)

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1, 2, 4, 5 and 6 rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al (US Patent 4963639).

Sato discloses polyamide polyols, which can be synthesized by reacting a polyamide with a hydroxyl-containing carboxylic acid (Column 5, line 13). Specific examples of hydroxyl-containing acids, which can be reacted with a polyamide include lactic acid, glycolic acid, hydrobutyric acid, hydroxystearic acid and the like. (Column 5, line 40). Since the resulting hydroxyl-terminated polyamide is a precursor for further polyurethane synthesis, it should meet the limitations of Claims 4 and 6.

Claim 1, 2, 4, 5 and 6 rejected under 35 U.S.C. 102(b) as being anticipated by Melchioris et al (US Publication Number 2002/0165334A1).

Melchioris teaches a synthesis of hydroxyl terminated polyamide with Mn ranged from 400 to 5000, which are precursors for polyurethanes. (Column 2, line 0023).

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Therefore, at the typical reaction ratio, which is close to 1:1, the resulting product will have hydroxyl terminated fragments from polyamide component.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Sato. Sato discloses a usage of hydroxybutyric acid as an polyamide endcapper. However, it would be obvious to replace the above acid to hydroxycaproic acid to obtain a hydroxyl-ended polyamide with the same properties.

Compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same

chemical group, e.g., by -CH₂ - groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977). See also *In re May*, 574 F.2d 1082, 197 USPQ 601 (CCPA 1978) (stereoisomers *prima facie* obvious), (MPEP 2144.09).

Claims 7- 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Sato as applied to claim 1 above, and further in view of Brubaker (US Patent 2264293).

Sato doesn't teach the application of the polyamide in form of fiber, film and molding.

Brubaker discloses a synthesis of hydroxyl terminated polyamide by adding monoalkyl amine to a reaction mixture comprising a diacid and a diamine (page 1, Example 1). The structure of Brubaker's polyamide is essentially the same as one disclosed in Claim 1. The above polyamides possess increased affinity to dyes, when processed as fibers and filaments. Also, Brubaker teaches that the above polyamides have advantages in spinning from solution, preparation of films, ribbons, etc (Column 4 line 5). Therefore, it would be obvious to use hydroxyl terminated polyamides for variety of applications, such as production of fibers and films and injection molding.

Claim Rejections - 35 USC § 102/103

Claim 1, 3 7, 9, 10, 11, 13 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Brubaker.

Regarding claims 7 and 9 Brubaker teaches a fiber forming hydroxyl terminated polyamide. The fiber above produced by extrusion molding process (Page 1, line 20).

In reference to Claim 10, Brubaker teaches that the hydroxyl group present in amount of from 0.1- to 5 mol %.

Regarding Claims 13 and 14 Brubaker teaches hydroxyl terminated polyamide based on Caprolactam (Example 3, page 2).

In reference to Claim 16, Brubaker teaches pigmented fibers.

Brubaker does not teach alkanemonocarboxylic acid. However, Brubaker's polyamide has essentially the same structure as Applicant's resin. Therefore, product-by-process rejection can be applied.

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

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"The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

"[W]hen the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim,

a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped

to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith." *In re Brown*, 459 F.2d 531,

535, 173 USPQ 685, 688 (CCPA 1972).

Claim Rejections - 35 USC § 102

Claims 1, 2, 3, 5, 8, 11, 12 rejected under 35 U.S.C. 102(b) as being anticipated by Marion (US patent 5278249) herein Marion.

Marion teaches a hydroxyl terminated polyamide (Claim 3, Column 16) end-capped with 6-hydroxycaproic acid (Column 5, Line 30), which can be used for coating (film) (Abstract).

Claims 1, 2, 3, 5, 7, 11, 12, 13, 14, 15, 17, 18 rejected under 35 U.S.C. 102(b) as being anticipated by Shinonome et al (US patent 4617235) herein Shinomore.

Shinomore teaches fiber-forming hydroxyl-terminated polyamide comprising caprolactam and hydroxycaproic acid and process of making (Column 2, line 35).


Regarding Claim 16, the fiber produces in combination with a pigment (Column 3, line 35).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb
Examiner
Art Unit 1711



James J. Seidleck
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